What is claimed is:

1.   A routing device for forwarding data packets in a communication system, the routing device comprising:

at least one interface for receiving and transmitting data packets;

5   a set of routing processors coupled to the at least one interface, each routing processor associated with a routing protocol for determining a set of routes; and

a routing table manager coupled to the set of routing processors, for maintaining a forwarding table of routes provided by the set of routing

10   processors.

2.   A routing device according to claim 1, further including a set of fast forward engines coupled to the at least one interface and the routing table manager for forwarding a data packet based on the forwarding table.

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3.   A routing device according to claim 1, wherein the routing table manager is implemented on a separate processor than each routing processor in the set of routing processors.

20   4.   A routing device according to claim 1, wherein each routing processor includes memory.

5.   A routing device according to claim 1, wherein the memory includes RAM, cache memory and queue memory.

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6.   A routing device according to claim 3, wherein the routing table manager processor includes memory in which the forwarding table may be stored.

30   7.   A routing device according to claim 1, further including:

a control data module coupled to the at least one interface for receiving and processing control data messages from a control data bus; and

a routing data module coupled to the at least one interface and the set of routing processors for receiving and processing routing data messages

5   from a routing data bus.

8.   A routing device according to claim 7, wherein the control data module and the routing data module are implemented on the same processor.

10   9.   An apparatus for aggregating and maintaining routing information for a routing device that forwards data packets in a communication system, the apparatus comprising:

an input for receiving routing information associated with a set of routing protocols;

15   a set of routing protocol processors coupled to the input, each routing protocol processor associated with a routing protocol from the set of routing protocols and for determining a set of routes for a particular routing protocol; and

a forwarding table coupled to the set of routing protocol processors for

20   maintaining a list of routes provided by the set of routing protocol processors.

10.   An apparatus according to claim 9, further including a routing table manager coupled to the set or routing protocol processors for updating the forwarding table.

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11.   An apparatus according to claim 9, wherein each routing protocol processor includes memory.

12.   An apparatus according to claim 11, wherein the memory includes

30   RAM, cache memory and queue memory.

13.   An apparatus according to claim 10, wherein the routing table manager is implemented on a separate processor than each routing protocol processor in the set of routing protocol processors.

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14.   A communication system comprising at least one routing device, the routing device for forwarding data packets in a communication system, the routing device comprising:

at least one interface for receiving and transmitting data packets;

10   a set of routing processors coupled to the at least one interface, each routing processor associated with a routing protocol for determining a set of routes; and

a routing table manager coupled to the set of routing processors, for maintaining a forwarding table of routes provided by the set of routing

15   processors.

15.   A communication system according to claim 14, wherein the routing device further includes a set of fast forward engines coupled to the at least one interface and the routing table manager for forwarding a data packet

20   based on the forwarding table.

16.   A communication system according to claim 14, wherein the routing table manager is implemented on a separate processor than each routing processor in the set of routing processors.

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17.   A communication system according to claim 14, wherein the routing device further includes:

a control data module coupled to the at least one interface for receiving and processing control data messages from a control data bus; and

a routing data module coupled to the at least one interface and the set of routing processors for receiving and processing routing data messages from a routing data bus.

5   18.   A communication system according to claim 17, wherein the control data module and the routing data module are implemented on the same processor.

19.   A communication system according to claim 14, wherein each routing
10   processor includes memory.